Endogenous remyelination is induced by transplant rejection in a viral model of multiple sclerosis.

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Public Summary:

Scientific Abstract:
Human embryonic stem cell-derived oligodendrocyte progenitors (OPCs) were transplanted into mice persistently infected with the neurotropic JHM strain of mouse hepatitis virus with established demyelination. Engrafted cells did not survive past 2 weeks following transplantation despite treatment with high dose cyclosporine A. While T cell infiltration into the CNS was dampened, elevated numbers of macrophage/microglia and endogenous OPCs were evident surrounding the implantation site and this was associated with increased remyelination. These data suggest that remyelination was initiated by the local response to xenograft transplantation. These findings illustrate the complexities of OPC transplantation into areas of robust immune-mediated pathology.